

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/586,932
Source: IFWP
Date Processed by STIC: 8/7/06

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/586,932

CRF Edit Date: 8/7/06
Edited by: [Signature]

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

/ Deleted: / invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

___ Other:



IFWP

RAW SEQUENCE LISTING

DATE: 08/07/2006

PATENT APPLICATION: US/10/586,932

TIME: 17:03:46

Input Set : A:\01-SQ Listing-21 Jul 2006.txt

Output Set: N:\CRF4\08072006\J586932.raw

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3 <110> APPLICANT: Martinussen, Jan
4     Defoor, Els Marie Celine
6 <120> TITLE OF INVENTION: Orotate Transporter Encoding Marker Genes
8 <130> FILE REFERENCE: 10556.204-US
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/586,932
C--> 10 <141> CURRENT FILING DATE: 2006-07-21
10 <160> NUMBER OF SEQ ID NOS: 22
12 <170> SOFTWARE: PatentIn version 3.3
14 <210> SEQ ID NO: 1
15 <211> LENGTH: 921
16 <212> TYPE: DNA
17 <213> ORGANISM: Lactococcus lactis
20 <220> FEATURE:
21 <221> NAME/KEY: CDS
22 <222> LOCATION: (1)..(921)
23 <223> OTHER INFORMATION: Orotate transporter encoding ORF
25 <400> SEQUENCE: 1
26 atg tat att tac cta gct ttt gca tta gtt ggc ggt ttt tta ctt gct      48
27 Met Tyr Ile Tyr Leu Ala Phe Ala Leu Val Gly Gly Phe Leu Leu Ala
28 1           5           10           15
30 aat caa aat cca atc aat gcg gat tta cga aaa att gtt ggc tca cca      96
31 Asn Gln Asn Pro Ile Asn Ala Asp Leu Arg Lys Ile Val Gly Ser Pro
32           20           25           30
34 ttt ttg gcc tct gga att tcc aac ttt gtt ggt tcg att ttt tta gga     144
35 Phe Leu Ala Ser Gly Ile Ser Asn Phe Val Gly Ser Ile Phe Leu Gly
36           35           40           45
38 att atc act tta gtg acc agt caa aca ctt ttt cct agt ttt caa ttt     192
39 Ile Ile Thr Leu Val Thr Ser Gln Thr Leu Phe Pro Ser Phe Gln Phe
40           50           55           60
42 gtt ggc tca cac cca gta tgg ata tgg att ggt ggg gtt ctt ggt ggg     240
43 Val Gly Ser His Pro Val Trp Ile Trp Ile Gly Gly Val Leu Gly Gly
44 65           70           75           80
46 att ttt cta aca tct aat gtt tta ctt ttc cca aga tta gga gct gtc     288
47 Ile Phe Leu Thr Ser Asn Val Leu Leu Phe Pro Arg Leu Gly Ala Val
48           85           90           95
50 caa acg gtg att tta cct att ttg ggt cga ata ttg atg ggg aca ctt     336
51 Gln Thr Val Ile Leu Pro Ile Leu Gly Arg Ile Leu Met Gly Thr Leu
52           100          105          110
54 att gat tca ttt ggc tgg ttt cat gcc atg caa ctt ccg atg act ctg     384
55 Ile Asp Ser Phe Gly Trp Phe His Ala Met Gln Leu Pro Met Thr Leu
56           115          120          125
58 atg cgc ttt ttg gga gtt atc att act tta gct ggg gtt att gtc gcg     432
59 Met Arg Phe Leu Gly Val Ile Ile Thr Leu Ala Gly Val Ile Val Ala

```

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60      130      135      140
62 gtt gtt ctt cct aat tta aaa gaa aaa gaa gca gaa acg cac caa act      480
63 Val Val Leu Pro Asn Leu Lys Glu Lys Glu Ala Glu Thr His Gln Thr
64 145      150      155      160
66 aac tta cta ggc tgg cga att tgg gcg gtc atc gtt ggg gca atg tcg      528
67 Asn Leu Leu Gly Trp Arg Ile Trp Ala Val Ile Val Gly Ala Met Ser
68      165      170      175
70 gct gct caa caa gca att aat ggc aga ttg gga gtt tta ctt gaa aac      576
71 Ala Ala Gln Gln Ala Ile Asn Gly Arg Leu Gly Val Leu Leu Glu Asn
72      180      185      190
74 act gca caa gca acc ttt gtt tcg ttc ttc att gga ttt tta gct att      624
75 Thr Ala Gln Ala Thr Phe Val Ser Phe Phe Ile Gly Phe Leu Ala Ile
76      195      200      205
78 ttt atc gtg tct ctt ttt att gac cgc cgt ttg cca aaa att tca gaa      672
79 Phe Ile Val Ser Leu Phe Ile Asp Arg Arg Leu Pro Lys Ile Ser Glu
80      210      215      220
82 tta aaa aaa gca aaa cct tgg aat gga att ggt gga ttt tta gga gcc      720
83 Leu Lys Lys Ala Lys Pro Trp Asn Gly Ile Gly Gly Phe Leu Gly Ala
84 225      230      235      240
86 tca atc gtt ttt gca aca gtc gtt gct gtt ccg caa att ggt gca ggg      768
87 Ser Ile Val Phe Ala Thr Val Val Ala Val Pro Gln Ile Gly Ala Gly
88      245      250      255
90 ctg aca att atg atg ggc ttg att gga caa att tta ggc agt atg ttg      816
91 Leu Thr Ile Met Met Gly Leu Ile Gly Gln Ile Leu Gly Ser Met Leu
92      260      265      270
94 gtt caa caa ttt ggt tgg tgg cgc tca agt aaa tat ggc att caa att      864
95 Val Gln Gln Phe Gly Trp Trp Arg Ser Ser Lys Tyr Gly Ile Gln Ile
96      275      280      285
98 tgg caa att gtt ggg att cta att atg ctg acc gga ata ata ttc att      912
99 Trp Gln Ile Val Gly Ile Leu Ile Met Leu Thr Gly Ile Ile Phe Ile
100      290      295      300
102 aaa ttt tta      921
103 Lys Phe Leu
104 305
107 <210> SEQ ID NO: 2
108 <211> LENGTH: 307
109 <212> TYPE: PRT
110 <213> ORGANISM: Lactococcus lactis
112 <400> SEQUENCE: 2
114 Met Tyr Ile Tyr Leu Ala Phe Ala Leu Val Gly Gly Phe Leu Leu Ala
115 1      5      10      15
118 Asn Gln Asn Pro Ile Asn Ala Asp Leu Arg Lys Ile Val Gly Ser Pro
119      20      25      30
122 Phe Leu Ala Ser Gly Ile Ser Asn Phe Val Gly Ser Ile Phe Leu Gly
123      35      40      45
126 Ile Ile Thr Leu Val Thr Ser Gln Thr Leu Phe Pro Ser Phe Gln Phe
127      50      55      60
130 Val Gly Ser His Pro Val Trp Ile Trp Ile Gly Gly Val Leu Gly Gly
131 65      70      75      80

```

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134 Ile Phe Leu Thr Ser Asn Val Leu Leu Phe Pro Arg Leu Gly Ala Val
135           85           90           95
138 Gln Thr Val Ile Leu Pro Ile Leu Gly Arg Ile Leu Met Gly Thr Leu
139           100          105          110
142 Ile Asp Ser Phe Gly Trp Phe His Ala Met Gln Leu Pro Met Thr Leu
143           115          120          125
146 Met Arg Phe Leu Gly Val Ile Thr Leu Ala Gly Val Ile Val Ala
147           130          135          140
150 Val Val Leu Pro Asn Leu Lys Glu Lys Glu Ala Glu Thr His Gln Thr
151 145           150          155          160
154 Asn Leu Leu Gly Trp Arg Ile Trp Ala Val Ile Val Gly Ala Met Ser
155           165          170          175
158 Ala Ala Gln Gln Ala Ile Asn Gly Arg Leu Gly Val Leu Leu Glu Asn
159           180          185          190
162 Thr Ala Gln Ala Thr Phe Val Ser Phe Phe Ile Gly Phe Leu Ala Ile
163           195          200          205
166 Phe Ile Val Ser Leu Phe Ile Asp Arg Arg Leu Pro Lys Ile Ser Glu
167           210          215          220
170 Leu Lys Lys Ala Lys Pro Trp Asn Gly Ile Gly Gly Phe Leu Gly Ala
171 225           230          235          240
174 Ser Ile Val Phe Ala Thr Val Val Ala Val Pro Gln Ile Gly Ala Gly
175           245          250          255
178 Leu Thr Ile Met Met Gly Leu Ile Gly Gln Ile Leu Gly Ser Met Leu
179           260          265          270
182 Val Gln Gln Phe Gly Trp Trp Arg Ser Ser Lys Tyr Gly Ile Gln Ile
183           275          280          285
186 Trp Gln Ile Val Gly Ile Leu Ile Met Leu Thr Gly Ile Ile Phe Ile
187           290          295          300
190 Lys Phe Leu
191 305
194 <210> SEQ ID NO: 3
195 <211> LENGTH: 25
196 <212> TYPE: DNA
197 <213> ORGANISM: Artificial sequence
199 <220> FEATURE:
200 <223> OTHER INFORMATION: Primer pyrDaBamHI
202 <400> SEQUENCE: 3
203 cgggatccat gaccgcacca acagc
206 <210> SEQ ID NO: 4
207 <211> LENGTH: 28
208 <212> TYPE: DNA
209 <213> ORGANISM: Artificial sequence
211 <220> FEATURE:
212 <223> OTHER INFORMATION: Primer pyrDaNcoI
214 <400> SEQUENCE: 4
215 catgccatgg ccaaattccat ctttaggc
218 <210> SEQ ID NO: 5
219 <211> LENGTH: 29
220 <212> TYPE: DNA

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25

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RAW SEQUENCE LISTING

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221 <213> ORGANISM: Artificial sequence
223 <220> FEATURE:
224 <223> OTHER INFORMATION: Primer pyrDaHindIII
226 <400> SEQUENCE: 5
227 cgtgaagctt gacaaaatag gctgacctc 29
230 <210> SEQ ID NO: 6
231 <211> LENGTH: 20
232 <212> TYPE: DNA
233 <213> ORGANISM: Artificial sequence
235 <220> FEATURE:
236 <223> OTHER INFORMATION: Primer PSA17
238 <400> SEQUENCE: 6
239 atgccgcctc atcatttgac 20
242 <210> SEQ ID NO: 7
243 <211> LENGTH: 20
244 <212> TYPE: DNA
245 <213> ORGANISM: Artificial sequence
247 <220> FEATURE:
248 <223> OTHER INFORMATION: Primer PSA20
250 <400> SEQUENCE: 7
251 atatcatctc ttttggtaat 20
254 <210> SEQ ID NO: 8
255 <211> LENGTH: 28
256 <212> TYPE: DNA
257 <213> ORGANISM: Artificial sequence
259 <220> FEATURE:
260 <223> OTHER INFORMATION: Primer pyrDbIF
262 <400> SEQUENCE: 8
263 cggaagatct gatgatgaca gttgtcag 28
266 <210> SEQ ID NO: 9
267 <211> LENGTH: 46
268 <212> TYPE: DNA
269 <213> ORGANISM: Artificial sequence
271 <220> FEATURE:
272 <223> OTHER INFORMATION: Primer pyrDbIR
274 <400> SEQUENCE: 9
275 ctgtactggt ccataagctc ggatccacca aaacaacctg acgctg 46
278 <210> SEQ ID NO: 10
279 <211> LENGTH: 46
280 <212> TYPE: DNA
281 <213> ORGANISM: Artificial sequence
283 <220> FEATURE:
284 <223> OTHER INFORMATION: Primer pyrDbIIF
286 <400> SEQUENCE: 10
287 cagcgtcagg ttgttttggg ggatccgagc ttatggacca gtacag 46
290 <210> SEQ ID NO: 11
291 <211> LENGTH: 28
292 <212> TYPE: DNA
293 <213> ORGANISM: Artificial sequence

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PATENT APPLICATION: US/10/586,932

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Input Set : A:\01-SQ Listing-21 Jul 2006.txt

Output Set: N:\CRF4\08072006\J586932.raw

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295 <220> FEATURE:
296 <223> OTHER INFORMATION: Primer pyrDbIIR
298 <400> SEQUENCE: 11
299 tcggagatct atccaaggac aagtgcag                                28
302 <210> SEQ ID NO: 12
303 <211> LENGTH: 17
304 <212> TYPE: DNA
305 <213> ORGANISM: Artificial sequence
307 <220> FEATURE:
308 <223> OTHER INFORMATION: Primer pyrDbseq1
310 <400> SEQUENCE: 12
311 tgggtggaatt ggggttc                                           17
314 <210> SEQ ID NO: 13
315 <211> LENGTH: 17
316 <212> TYPE: DNA
317 <213> ORGANISM: Artificial sequence
319 <220> FEATURE:
320 <223> OTHER INFORMATION: Primer pyrDbseq2
322 <400> SEQUENCE: 13
323 caaggtctgc gaagatg                                           17
326 <210> SEQ ID NO: 14
327 <211> LENGTH: 17
328 <212> TYPE: DNA
329 <213> ORGANISM: Artificial sequence
331 <220> FEATURE:
332 <223> OTHER INFORMATION: Primer pyrDbseq3
334 <400> SEQUENCE: 14
335 attgacagaa ctgccag                                           17
338 <210> SEQ ID NO: 15
339 <211> LENGTH: 18
340 <212> TYPE: DNA
341 <213> ORGANISM: Artificial sequence
343 <220> FEATURE:
344 <223> OTHER INFORMATION: Primer DBORO2
346 <400> SEQUENCE: 15
347 acttatcgtc cggacttg                                           18
350 <210> SEQ ID NO: 16
351 <211> LENGTH: 18
352 <212> TYPE: DNA
353 <213> ORGANISM: Artificial sequence
355 <220> FEATURE:
356 <223> OTHER INFORMATION: Primer DBORO8
358 <400> SEQUENCE: 16
359 cattagaaag cgcacgac                                           18
362 <210> SEQ ID NO: 17
363 <211> LENGTH: 26
364 <212> TYPE: DNA
365 <213> ORGANISM: Artificial sequence
367 <220> FEATURE:

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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/586,932

DATE: 08/07/2006

TIME: 17:03:47

Input Set : A:\01-SQ Listing-21 Jul 2006.txt

Output Set: N:\CRF4\08072006\J586932.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

**Raw Sequence Listing before editing
(for reference only)**



IFWP

RAW SEQUENCE LISTING

DATE: 08/04/2006

PATENT APPLICATION: US/10/586,932

TIME: 14:23:33

Input Set : A:\01-SQ Listing-21 Jul 2006.txt

Output Set: N:\CRF4\08042006\J586932.raw

3 <110> APPLICANT: Martinussen, Jan
 4 Defoor, Els Marie Celine
 6 <120> TITLE OF INVENTION: Orotate Transporter Encoding Marker Genes
 8 <130> FILE REFERENCE: 10556.204-US
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/586,932
 C--> 10 <141> CURRENT FILING DATE: 2006-07-21
 10 <160> NUMBER OF SEQ ID NOS: 22
 12 <170> SOFTWARE: PatentIn version 3.3

ERRORED SEQUENCES

422 <210> SEQ ID NO: 22
 423 <211> LENGTH: 17
 424 <212> TYPE: DNA
 425 <213> ORGANISM: Artificial sequence
 427 <220> FEATURE:
 428 <223> OTHER INFORMATION: Primer 268neo
 430 <400> SEQUENCE: 22
 431 ctgattccct gatctcg
 E--> 437 8

**Does Not Comply
Corrected Diskette Needed**

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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/586,932

DATE: 08/04/2006

TIME: 14:23:35

Input Set : A:\01-SQ Listing-21 Jul 2006.txt

Output Set: N:\CRF4\08042006\J586932.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:437 M:254 E: No. of Bases conflict, this line has no nucleotides.